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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/05/2003

Jose M. Sosa

API-1028US (COS-936)

1024

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04/13/2006

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EXAMINER

ASINOVSKY, OLGA

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

MAILED

APR 14 2006

GROUP 1700

Application Number: 10/729,446
Filing Date: December 05, 2003
Appellant(s): SOSA ET AL.

Tenley R. Krueger
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 30, 2006 appealing from the Office action mailed April 11, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,437,043	Sosa et al.	8-2002
5,633,318	Bowen	5-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sosa et al U.S. Patent 6,437,043.

Independent claim 1 and dependent claims 4-5 and 8 disclose a composition=product-by-process comprising an impact modified polystyrene prepared using a process comprising dissolving a styrene-conjugated diene-styrene block copolymer in styrene monomer and polymerizing the styrene monomer wherein the impact modified polystyrene has a haze value of less than or equal to 12 percent.

The product-by-process is a product.

Independent claim 18 discloses a process for preparing an impact modified polystyrene comprising dissolving a styrene-conjugated diene-styrene block copolymer in styrene monomer and polymerizing the styrene monomer wherein the impact modified polystyrene has a haze value of less than or equal to 12 percent.

Sosa'043 discloses a process for producing an impact rubber modified polystyrene composition comprising a styrene-butadiene-styrene (SBS) block

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copolymer (column 4, line 26) and polymerizable vinylaromatic hydrocarbon monomer, column 4, lines 8-67. The resulting product is transparent, column 4, line 67 and column 1, line 40. The SBS block copolymer is readable in the present claims 1, 5 and 18. The claimed statement that the impact modified polystyrene has a haze value of less than or equal to 12% is equivalent to the transparent resulting polymer as evaluate by the human eye, column 1, line 40. The elastomer concentration can be present in the ratio from 30% to 50%, lines 61-63. The ratio of styrene to butadiene in the first reactor for producing a block copolymer is initially bout 70 to 90 parts styrene to about 10-30 parts butadiene, column 8, claim 5. Thus, the styrene content in the block copolymer is readable in the present claim 8. Sosa'043 discloses a process for producing an impact rubber modified polystyrene wherein a block copolymer is produced in a first reactor, then adding monovinylaromatic monomer and polymerizing said monomer to form a transparent elastomer-modified polymer, column 3, lines 18-21 and column 8, lines 5-9. The claimed process for producing HIPS in the present claim 18 is a conventional process, which is readable in Sosa'043 invention. The claimed invention is fully anticipated by the disclosure of Sosa'043 reference.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-7, 9-17 and 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sosa et al U.S. Patent 6,437,043 as applied to claims 1-5, 8 and 18 above, and further in view of Bowen U.S. Patent 5,633,318.

Sosa'043 does not disclose a coupling agent for making a (SB)_nX block copolymer (for the present claim 6), chain transfer agent (for the present claim 16) and a process condition wherein the reaction can be initiated thermally (for the present claim 19). In addition to the discussion above, Sosa'043 discloses a process for polymerizing styrene monomer in the presence of elastomer using a solvent such as cyclohexane, column 4, line 44 or toluene, column 6, line 12, for the present claim 22. The polymerization of styrene comprises a peroxide initiator, column 8, line 26, for the present claim 20.

Bowen discloses styrene resin such as HIPS resin wherein a rubber portion is styrene-butadiene-styrene triblock copolymer, column 4, lines 52-54. The triblock copolymer is dissolving in a styrene monomer. The polymerization of styrene monomer is initiated thermally, column 3, lines 65, or, if needed, an initiator can be used, column 4, lines 30-34, in the presence of a chain transfer agent=mercaptan, column 3, lines 65-67 and column 4, lines 1-2. A rubber modified polystyrene can include 90.5 % of polystyrene, column 6, lines 46-47.

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Both references disclose a process for polymerizing styrene monomer in the presence of a styrene-butadiene-styrene block copolymer. Any morphology of block copolymer is readable in Sosa'043 or Bowen. The transparency is depending on the content of styrene monomer.

It would have been obvious to one of ordinary skill in the art to modify a process for producing a polystyrene resin in Sosa'043 invention by adding a chain transfer agent as disclosed by Bowen, since it would be obvious to regulate a molecular weight for obtaining the desired ratio of M_z/M_n of at least 4.1 in the present resulting impact modified polystyrene. Also, it would have been obvious to one of ordinary skill in the art to use a coupling agent for making a coupled block copolymer in any recited references for producing a rubber modified impact polystyrene in Sosa'043 and Bowen invention since any morphology of block copolymer is readable in Sosa'043 or Bowen, and since the morphology of block copolymer would not effect on the transparency of the obtained impact modified polystyrene.

(10) Response to Argument

I. Appellant's argument is that Sosa '043 directed to making Transparent Impact Modified Polystyrene (TIPS), which is not the same product as HIPS as recited in the present claims. Appellant argues that Sosa'043 does not teach, show or suggest a HIPS material having a haze value of less than or equal to 12 percent.

Sosa'043 discloses a solution polymerization process wherein the elastomer block copolymer is produced by controlling level of elastomer monomer and styrene monomer in the presence of a compatible solvent and an initiator. Then adding

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monovinylaromatic monomer and polymerizing said monomer to form a transparent elastomer-modified polymer. Sosa'043 discloses a process for forming an impact-resistant rubber-modified monovinylaromatic compound, claim 1 at column 7. The phrase "Transparent Impact Modified Polystyrene" (TIPS) is only a named resulting product. The process for making TIPS in Sosa'043 and HIPS in the present claims is the same. The styrene-butadiene-styrene block copolymer in the present claim 5 is equivalent to a SBS block copolymer in Sosa'043, column 4, line 26. During the interview on 01/12/2005 the inventor Dr. Sosa discloses that the SBS block copolymer in the present claims has different structure from reference Patent 6,437,043, column 4, line 31. However, there is no morphology structure for SBS block copolymer in the present claims. There is no amendment to identify the difference in the SBS block copolymer in the reference and present claims. The analogous process in the Sosa'043 invention and in the present claims will produce the same resulting HIPS product in the absence of evidence to the contrary, although Sosa'043 used name TIPS. The argument that Sosa'043 does not disclose a "haze value of less than or equal to 12 percent" is not persuasive, because Sosa'043 discloses a transparent TIPS.

II. Appellant's argument is that there is no motivation to combine the teachings of Bowen with Sosa'043. The argument is that Bowen discloses the resultant rubber modified polystyrene has reduced clarity, column 4, line 11. However, the resultant rubber modified polystyrene can has a high level of polystyrene, column 6, lines 46-47. The transparency is depending of the polystyrene content. Both references disclose

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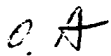
high level of polystyrene. Both references disclose the analogous triblock copolymer elastomer. Both disclose high impact polystyrene. The evidence of modification and improvement can be applied to the invention in the primary reference.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



O. Asinovsky

April 10, 2006

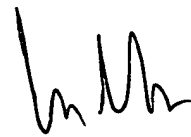
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